

# ZAIN ABBAS

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## SUMMARY

Electrical Engineering student at FAST NUCES (Class of 2027), CGPA 3.31, with hands-on experience in embedded systems, circuit design, and software development. Teaching Assistant across three courses supporting 80+ students each. Equally comfortable in hardware (Arduino, Multisim, circuit design) and software (C++, Python, web dev). Driven by building things that work, learning fast, and solving problems from first principles.

## EDUCATION

<b>FAST NUCES, Chiniot-Faisalabad Campus</b> <i>B.S. Electrical &amp; Electronics Engineering</i>	Aug 2023 – Aug 2027 <b>CGPA: 3.31 / 4.0</b>
<b>KIPS Education System</b> <i>FSC Pre-Engineering</i>	2021 – 2023 <b>66%</b>
<b>Dhariwal Public High School</b> <i>Matriculation, Science</i>	2019 – 2021 <b>96%</b>

## EXPERIENCE

**FAST NUCES** Feb 2025 – Present  
*Teaching Assistant — LCA, CVT & Differential Equations* Faisalabad, PK

- Supported 80+ students per course across 3 subjects: Linear Circuit Analysis, Complex Variable Transform, and Differential Equations.
- Led lab sessions using Multisim and Proteus, graded assignments, and provided one-on-one mentorship to strengthen student understanding.

**CyberGen** Jul 2025 – Aug 2025  
*Intern — Artificial Intelligence* Faisalabad, PK

- Assisted in building and testing AI models including data preprocessing, analysis, and applying ML concepts to real-world problems.

## ACADEMIC PROJECTS

- IoT-Based Smart Home Gardening System** (ESP32, Sensors) — Monitors soil moisture, temperature, and humidity in real time; auto-triggers irrigation and sends Wi-Fi alerts. **[1<sup>st</sup> Place – Project Exhibition]**
- Smart Home Automation System** (ATmega32) — Role-based access control with Admin (full control) and Guest (limited light control) modes.
- Line Following Robot** (Arduino, IR Sensors, DC Motors) — Autonomous robot that detects and follows a line path; programmed entirely in Arduino C.
- Q-Travel International Website** (HTML, CSS, JavaScript) — Responsive travel agency site deployed live on Netlify.
- Contact Book** (C++, OOP, File Handling) — Console app with full CRUD operations using file-based persistence.
- Automatic Street Light System** (LDR, Transistors) — Light-sensitive circuit that automates streetlight control to reduce energy waste.
- Traffic Light System** (Proteus, Logic Gates) — Simulated signal system with timer-driven real-time transitions.
- Temperature Controlled Fan** (Proteus) — Autonomous smart cooling solution without a microcontroller; fully analog design.

## TECHNICAL SKILLS

**Languages:** C++, Python, HTML, CSS, JavaScript    **Hardware:** Arduino, ESP8266, Circuit Analysis, Analog & Digital Electronics, IoT

**Tools:** Multisim, Proteus, MATLAB, AutoCAD 2D/3D, Git/GitHub    **Concepts:** OOP, DSA, Signal Processing, Operating System

## ACHIEVEMENTS & LEADERSHIP

- 1<sup>st</sup> Place — Project Exhibition:** Won first place at FAST NUCES CFD project exhibition for the IoT-Based Smart Home Gardening System.
- 1<sup>st</sup> Place — Speed Wiring Competition:** Won university-level circuit assembly competition judged on speed, accuracy, and technical skill.
- Google Developer Group — 30-Day Challenge (2024):** Completed structured month-long coding challenge.
- IEEE Student Chapter Member:** Active member of FAST NUCES CFD IEEE chapter; contributed to technical workshops and professional development events.
- Daira Event Organizer (2024 & 2025):** Co-organized university-level technical competitions with strong student participation.